

Aviation News

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Resignation Opposed: Charles E. Wilson, WPB executive vice chairman, has submitted his resignation but many leaders of the aircraft industry are insisting that he continue his able and successful direction of aircraft production, an insistence expected to stay Wilson's departure, at least for the time being.

Allies Step Up 3-Way Air Assault Against Nazis

Large-scale bombing attacks increased sharply in move for quick knock-out, says Commentator Page 16

Wright in Production on New 2200 hp. Engine

Company announces data on air-cooled radial powerplant, described as one of most powerful in the world..... Page 25

Pogue Urges Allied Firm Operate Air Bases

CAB chairman favors private management of global routes in talk on "World Highways of the Air"..... Page 37

Ford Divulges Plan To Build Postwar Planes

Reveals program for manufacture of high-speed, safe and economical craft of "unique design" at Willow Run..... Page 14

Prehearing Talks Open on Caribbean Routes

Nineteen companies represented out of 21 seeking to operate air lines to Mexico, Central and South America, Caribbean..... Page 34

Air Problems Threshed Out at Oklahoma Clinic

About 400 representatives of airlines, industry and private flyers discuss wide range of topics at NAA planning parley..... Page 7



Flight tests ON THE GROUND

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AVIATION, INC.**

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THE AVIATION NEWS

Washington Observer

AVIATION CLINIC—The National Clinic of Aviation Planning at Oklahoma City, sponsored by the National Aeronautic Association, was regarded with some skepticism in the industry when it was first proposed. The results of the meeting, attended by aviation-minded men from the government, aircraft industry and airlines, quieted that skepticism and the fact that these leaders were able to agree on unified action on subjects of vital importance to aviation generally indicates that aviation, suffering from growing pains, is beginning to mature.

LEA BILL AT CLINIC—The Lee Bill, which seeks to amend the 1938 Civil Aeronautics Act, naturally was a major controversial issue. This was not unexpected in view of the varied interests represented at the session. The fact that the delegates were willing to pass that issue and agree on other basic questions indicated a recognition of the necessity of a united front for the common good of the industry.

ALL IS CONFUSION—Confusions in high official meetings make it increasingly difficult to get a clear picture of our war position. Confusion, which is frequently created in the minds of the people on the home front, stems directly from statements made by high-ranking, responsible officials, statements which very widely in their conclusions and statements which contribute to unwarlike optimism on one hand and unwarlike pessimism on the other.

STRENGTH OF THE LUFTWAFFE—A few weeks ago, Gen. Arnold disclosed that on a recall of our long-range bombing strike, the strength of the Nazi air force had been drastically reduced, that the Luftwaffe was seriously crippled. Recently, Maj. Gen. George V. Strang, assistant chief of staff and chief of military intelligence, said Germany had more airships than she had in 1938. On almost the same day, Secretary of the Navy Knox told his news conference that we have complete domination of the air in the Solomons, New Guinea, the Mediterranean, France, Germany and Britain.

PUBLIC PUZZLED—The question naturally arises—has German air strength increased or diminished? Do we have control of the air over enemy territory or don't we? Gen. Arnold should know and undoubtedly does. Gen. Strang should know and undoubtedly does. Secretary

Knox should know and undoubtedly does. It would help if they got together.

* * *

OUTDOOR ASSEMBLY LINE—When the West Coast editor of AVIATION News reports on various developments in the great aircraft industry there, it is most difficult for him to refrain from mentioning that Southern California weather and to compare it—uncomparatively—with that of Washington. We had to bow to



him on the weather angle when he sent along the interesting picture of Lockheed's outdoor assembly line which is adding to the record-breaking output of the much-in-demand P-38 fighter.

* * *

TEN-HOUR SHIFTS—The aircraft industry is watching closely the experimental ten-hour shift programs of Northrop and North American on the West Coast. The West Coast generally did not take kindly to the suggestion of NPA that they adopt ten-hour shifts on a production slowdown. Some industry leaders believe a changeover from the present working schedule would result in at least a temporary lowering of production and that the loss would not be compensated by any subsequent production improvement. One aircraft executive went so far



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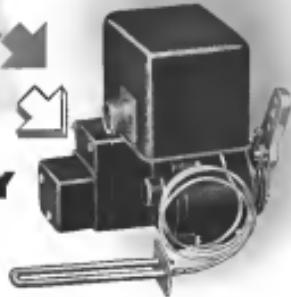
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Aviation News

November 22, 1945

Postwar Air Problems Threshed Out At Oklahoma City Aviation Clinic

600 representatives of aircraft industry, airlines and private flyers wide range of topics at first national aviation planning conference.

BY ALEXANDER MCSUREY

Signs of the beginning of a new era of maturity in the aviation industry were apparent in many quarters, in the First National Clinic of Domestic Aviation Planning, held under sponsorship of the National Aeronautic Association at Oklahoma City, Nov. 11, 12, and 13.

Not the least of these was the shift of the industry to set aside resolutely a controversy which seemed impossible of settlement, in regard to the Lend-Lease in order to concern the nation to formulate policies on other matters of equal importance, on which the 400 representatives of aircraft manufacturers, private flyers, airlines, and other representatives could agree.

► **Resolutions**—Wide scope of the meeting is shown by the variety of resolutions, unanimously adopted, which called for:

Establishment of a Department of National Defense, eliminating separate Navy and War departments in the cabinet, and grouping these with undersecretaries, on an equal footing with the Air Force, in the new department.

Immediate CAB action to set up a program to render routes to small cities and peasant hearings on applications for new routes.

► **Air Postal Post**—Action by Congress and Post Office Department toward adoption of legislation creating system of air postal post, with earmarking of profits from air postal service for expansion of air postal service, and additional appropriations for expansion.

Continuation and expansion of intensive research on all aspects of aviation by both Government and private enterprise.

Cooperation by state and federal governments in establishing post-war airports in suitable numbers

equipment at the close of the war, to go to an appropriate government agency.

All possible measures to multiply number of airports for personal use, with simplified regulations governing their use.

Observers noted that a number of the resolutions in effect called for support of certain portions of the Lend-Lease, indicating these portions at least were generally acceptable to the entire industry. Controversy over the proposed bill, which works to codify existing federal aviation regulation, and revise it, started at the clinic's opening day luncheon, when Col. Edgar S. Garnett, president of Air Transport Association of America, emphatically advocated support of the bill, warning that continuing state regulations would interfere with aviation's progress unless some such federal regulation were set up.

► **Lend-Lease Attached**—The controversy flared later when Thomas Walsh, state aeronautics official from Michigan, attacked the bill as threatening state's rights. Later a group of aviation officials representing 31



RESOLUTIONS COMMITTEE

Members of the Resolutions Committee for the National Clinic of Domestic Aviation Planning are shown at a meeting in Oklahoma City. Left to right, seated: J. E. Yonce, George Logan, Ralph J. Hall, Kern Dodge, Anderson; Fred Fugger, Percy McDonald, Fauler W. Barker, editor of *Air Transport*, and Dr. Ben Wood. Standing: NAA President Gill Robb Wilson, Paul Hobart, T. E. Meissell, Merrill C. Meigs, vice-chairman; Terrell C. Druskett, and John E. F. Morgan.



LEA BILL PRO AND CON:

Representatives of opposing views on the Lea bill to amend the Civil Aeronautics Act, now pending in Congress, are shown on the witness chair for Domestic Aviation Planning, Oklahoma City. Left to right: Theron Walsh, Terrell C. Brackmeyer, Gen. Matt Neely and William L. Anderson. Walsh and Anderson, state transportation officials from Michigan and Pennsylvania respectively, attacked the bill as interfering with state's rights, while Brackmeyer, executive vice-president of Continental Airlines, Denver, and Governor Neely, of West Virginia, were among the bill's strong proponents.

states, according to William Anderson of Pennsylvania, chairman, voted independent resolutions attacking the bill, and urging postponement of any federal legislation until after peace.

Statements of the side included:

► **William A. M. Burden**, special aviation assistant to the Secretary of Commerce: "There are 6,490 communities of 1,000 persons or over in the United States, almost all of which are within 10 miles of airports. National plan now covers approximately 4,000 airports, instead of 4,000, most of the increase being in small fields for private flying."

"There is no real need for about 1,500 more small fields. The government must continue to help civilian aviation training until such time as it is absolutely certain a sufficient number of our citizens can and will learn to fly each year at their own expense to insure the United States remaining the largest and most important air power in the world."

► **Harlie Busch**, CAB member: "There are now on file with the board 233 applications to serve approximately 3,400 towns and cities, with proposed new routes totaling approximately 100,000 miles. Two-

thirds of a commercial passenger industry on a wartime philosophy involving great personal risks and in which waste and extravagance are inevitable. It is in this connection that educational levels can serve both the public and the aviation industry in re-education and re-creating our peacetime standards of safety, economy and efficiency in air transportation."

► **Don Flewer, Cessna**: "For personal flying we want airports that cannot be expanded in the future to drive out the private flier. We want a major stream in the park here in Oklahoma City, one mile from wherever you want to go. The personal plane won't be any harder to fly or take off near runway in the postwar than it does now. It will show substantial improvements in both respects."

► **Bill Robb Wilson**, NAA president: "A vast redistribution of civilization and population will follow the war, because aviation has narrowed the world to one neighborhood. We will take out of the old world's capitals millions of youth eager for peace and settle them in new territories. ... Let's get together and pull together and cut out this damn foolishness."

► **William B. Stoltz**, aircraft designer: "There are 6,000 roofs in New York right now which could be used for helicopter landings, by only unlocking the doors to the roofs. Helicopters will be used in crowded urban areas but are less practical for wide open spaces."

► **Cal Edward B. Gandy**, ATA president: "No provision for America's civil aviation should be complete without a strong declaration of independence of civil aviation from domination by surface carriers. There has been a growing indication which warns of the elaboration of complex sets of state regulations which would in some cases affect a portion of civil aviation and in other cases might affect all businesses."

► **Fraser A. Cudlery**, vice-president, Canadian-Pacific-Vulco Corp.: "The cost of shrinking a business is as much a cost of war, as the cost of expanding it. ... Quick postwar settlements of contract termination are necessary to avoid a chaotic condition in the production facilities of our nation."

► **Dudley Steel**, manager Lockheed Air Terminal: "There is need to apply modern merchandising to airports. Suggestions for additional services include: heliports, gas station, car care for passengers, gasoline service station, parking lots, char-

geway, cocktail lounge, coffee shop, restaurant, barbershop, drugstore, bowling alley, news reel theater, drive-in, self-service car, steam bath, shower, massage rooms, controlling revenues of telephone and telegraph facilities, giving a percentage return on their intake."

► **C. Edward Lunsford**, chief, proceeding division, CAB: "Consensus among these qualified indicates that new type airports suitable for expansion of local service including

commercial passenger and pickup equipment, will not be ready until at least one year after Germany's collapse, and that commercial heliports are at least a year off."

Business sessions were conducted in the House of Representatives chamber in the Oklahoma State Capitol. Divisions for the delegations included trips to the big Douglas C-47 plant, and to the Army Air Service Command of Tinker Field, and a barbecue and Indian dance at the local golf and country club.

for transoceanic and transoceanic operations

2. Development of existing designated air carrier airports
3. Development of facilities for local or feeder scheduled service
4. Development of facilities for the private flier.

Burden expressed his views of the recent National Plan of Domestic Aviation Planning of Oklahoma City.

The present system of airports is not extensive and generally was adequate for pre-war commercial aviation. The United States is served by some 1,600 civil airports, of which 750 are suitable for transport aircraft. In addition, several hundred military airports have been built during the war, of which probably somewhat less than half of them will be permanently useful for civil purposes.

► **Survey Made in 1939**—The airport survey made by the Civil Aeronautics Administration in 1939 recommended a national airport development plan which would serve 4,000 airports. It appeared that this a network of that size would be sufficient to serve the future needs of aviation for some years.

Burden pointed out that the expenditure, while it would mean doubling our present airport investment, is only a fraction of the two

\$800,000,000 Airport Program Urged by Burden for Post-War Era

Stresses need of bigger and better fields for accommodation of large transports, increased commercial and private traffic.

Organization of a postwar airport development program to cost approximately \$500,000,000 is recommended by William A. M. Burden, special aviation assistant to the Secretary of Commerce.

Burden pointed out that the expenditure, while it would mean doubling our present airport investment, is only a fraction of the two

and a quarter billion spent annually by federal, state and local governments on highways, streets and roads.

► **Post-War Requirements**—While recognizing that postwar airport requirements cannot be foreseen in detail, Burden says they fall generally into four categories:

1. Development of large airports



CLOSEUP OF A BABY CARRIER:

This close-up photograph of the USS Card shows more detail than any pictures previously released by the Navy of our baby flat-top. The Card, with its planes and three accompanying destroyers, knocked out more Nazi subs than any other carrier in North Africa.

1942. It was converted from a Marmon Cramers hull by Seattle Tannum Shipbuilding Co., and commissioned on Nov. 8, 1942, the day of the North African invasion. Note magazine at top of mast where carrier deleted details.



AIRCRAFT STANDARDS GROUP

Officials of National Aircraft Standards Committee for 1963-64 photographed at their recent meeting at Hotel Lexington in New York. Seated, left to right: Charles Barden, Jr., Consolidated-Vultee Aircraft, West Coast chairman; Jack F. Cen, Vega Aircraft, national chairman; George W. Bingham, Canada Aircraft, East Coast chairman; standing, left to right: Gino M. Arce, Northrop Aircraft vice-chairman, West Coast; Eugene W. Kerns, secretary of national office, Washington, D. C.; Jerome Grupper, Brewster, secretary, East Coast. Not present in the picture are board members R. W. Miller, executive engineer, Republic Aviation; and E. W. Wells, chief engineer, Boeing.

too conservative. He said the number would have to be increased to approximately 6,000, most of the increase being in small fields for private flying.

Federal Participation—"One thing is certain," Barden said, "and that is that if the program is to be developed on a sound basis, there must be a far higher proportion of local financial participation than there has been in the past."

He pointed out that "equally essential to safe air navigation either by airlines or private flyers is the federal airways system."

Modernization—"The postwar requirements of expanding commercial aviation will demand extensive modernization of the present airways system and the building of thousands of miles of new airways to serve the extensions of trunk air routes and whatever feeder route expansion the CAB sees fit to certificate and Congress to finance."

Barden estimates the cost of the airways modernization and expansion program would be extremely small in relation to other aeronautical expenditures.

Investment—"Total present investment in airways facilities," he

said, "is only \$12,000,000—less than the cost of one of our very large international airports—and new airways of the most modern type can be built for only \$2,000 per mile."

Barden discussed the Civilian Pilot Training program and said that when the pattern of federally-assisted postwar flight training is finally set "we will find that a larger proportion of it will be conducted by flight schools than by new courses with the outcome remaining the knowledge of the systems."

Civilian Training—"To my opinion," he added, "the postwar civilian training program should be following these principles:

1. It should be carried out by private flight instructors working with our educational institutions.

2. It should be highly selective on a scholarship basis, with only the boys and girls who stand at the top of their classes in general school work eligible for federally-assisted flight training.

3. Some financial contribution should be made by the students themselves when they are capable of doing so.

4. The standards of flight and ground training should be high.

The students receiving flight training at federal expense might, if Congress desires, either be enlisted in an aerial R.O.T.C. or pledged for a limited number of years to military service in the event of war.

Barden said he did not visualize that federally-assisted training need be a permanent part of American aeronautical policy, but such a program would accelerate the development of the private flying industry to the point where it can stand on its own feet economically.

NASC Adopts New Standards on Planes

Action taken at three-day meeting expected to simplify design.

Adoption of new standards and specifications which will simplify design, assembly and maintenance of United States government airplanes all over the world, were announced by the National Aircraft Standards Committee of the prime aircraft manufacturers at the conclusion of the three-day semi-annual meeting in New York.

The meeting was attended by more than 40 representatives of the 35 contractors for design and production of government airplanes as well as members of the Army-Navy Aeronautical Board, the Bureau of Aeronautics of the Navy, Wright Field staff, Army War Production Board, American Standards Association, Naval Air Commission, Royal Canadian Air Force and the Australian Office of War Supplies.

Progress Report—Setting national chairman Eric Dudley, materials and standards engineer for Curtiss-Wright Radial, announced that the meeting approved the progress report of his subcommittee for reduction of variation of size, thickness and tolerances for carbon, alloy and stainless steels in sheet, plate and bar form to approximately one-tenth of their former width. This project is now nearly complete.

Dudley disclosed that his committee, now in its third year, has produced from 40 to 70 new standards and specifications per year, which have been officially adopted, and all of which will greatly simplify the new materials problems of airplane designers, manufacturers and purchasers.

Responsibility—He said, further, that the Army-Navy Aeronautical Board is giving the National Aeronautics Standards committee in-

creased responsibility in preparation of data for Army-Navy standards, which are the highest in the aviation world.

Listed among the accomplishments of the National committee during the past year was the reduction of 2,792 varieties of dual tubing materials and sizes to 353, a corresponding reduction in steel tubing and cutting of the approximately 100 varieties of rivet types and materials used in airplane construction to fewer than ten.

WAL Purchase of Inland Expected To Pave Way for Other Airline Deals

Results of CAB hearing on consolidation watched with interest by other companies regarding similar moves.

BY SCHOLAR BANGS

If Western Air Lines' purchase of Inland Air Lines sets the pace, future deals for absorption of small domestic routes by major operators may be expected to pick like firecrackers.

Learning that Inland was "in the mood," WAL officials wasted no time in opening purchase negotiations Oct. 5. Two days later, in Cuper, Wyo., an agreement was signed for the purchase price of \$161,000.

Other Deals Expected—Outcome of the CAB hearing on the deal Nov. 14 on which CAB is expected to rule within 45 or 60 days undoubtedly will bring other similar proposals involving other air lines.

The view that CAB takes after studying the Western-Inland case with respect to valuations of tangible assets involved will be watched with interest by so transparent concern as the road."

Details—A year ago, WAL and Inland had reached the serious stage in negotiations that fell through because Western refused to be rushed. Inland is understood to have negotiated with Continental, Northwest and Braniff prior to the western purchase.

Similarly, Continental and Mid-Continent Air Lines have been reported interested in the possibilities of a merger.

CAB Stand Awaited—Whether Mid-Continent and Northwest might re-open negotiations that were reported to have collapsed earlier this year may be determined by CAB action on the western deal.

Because of its strategic position with routes radiating from Denver, as the Central Transcontinental Airway, to El Paso, to Wichita and Tulsa, and to Kansas City, Continental Air Lines should have little

difficulty in obtaining purchase offers.

Foxes as Washington—The combination of merger fever and new route venturing probably will focus on Washington and CAB the attention of small air lines that never before have felt the need of full-time representation in the capital.

WAL, for example, now vitally interested with what is going to happen to its Inland purchase as well as applications for new routes extending from Nome, Alaska, to Bismarck, N.D., is commanded by Capt. Arnold J. Inbell, U.S.N.

An observer in an advance New Orleans base watched airborne American Airlines' Super Constellation perform such of the C-47 transport planes as seven minutes and build a mile-long service in 90 hours. He commented: "The C-47, the jeep and the bulldozer—those things the Japs don't have—are winning the war in the Pacific."

The ex-warrior D. S. Cerd, her air squadrons and her escort vessels, after destroying more submarines than any other nation, has recently returned to an East Coast port to receive a Presidential seal of citation. The unit citation was presented by Admiral Royal E. Ingersoll, U.S.N. Commander-in-Chief of the Atlantic Fleet in behalf of the President. The Cerd, a baby boy, is commanded by Capt. Arnold J. Inbell, U.S.N.

A survey recently taken by the Purchasing Council revealed that the National Electrical Manufacturers Association listed the aviation industry second in retaining employment after the war—behind the automobile industry—and placed the aviation industry as the one "which will do the most for the American people in the future."

Ground Aircraft Corp. has announced a \$100,000 award for "outstanding excellence in production" of Avenger and Midway planes.

The Frigidaire Division of General Motors at Dayton, one of Hendon Standard's licensees, recently completed its first 340F0 propeller with 40-1/2 blades, starting production on the largest Hendon Standard propeller, the first of this size to be manufactured in quantity. The propeller measures 16 ft. 7 in. tip to tip.

Carl T. Dornan, vice-president and chief engineer of American Motors Corp., has been named first vice-president of the company. C. E. P. Roth was appointed vice-president in charge of sales and Charles P. Carr was appointed secretary-treasurer; Joseph Sabock, production manager, and Walter W. Bagrow, administrative engineer. The company manufactures Franklin aircraft engines.



WASP WINGS:

Here is the official uniform and insignia for the WASP (Women's Airforce Service Pilot) corps, women pilots assigned to the Army Air Forces. They are now serving 17 types of aircraft in the United States and Canada. Including pilots in training, the WASP by Jan. 1 will number approximately 1,000 women, with an additional 1,000 training acceptance of their applications. The model is Deana Clark, Washington, D. C.

Ford To Build Big Cargo Planes At Willow Run Plant After War

Aero manufacturer says he will continue in aviation field; reveals plans for high-speed, safe and economically operated craft of "unique design".

The much-debated question of whether aircraft companies will manufacture jetliners after the war and whether automobile manufacturers will go into aircraft production has been answered, as far as Henry Ford is concerned, with his announcement that he plans to make airplanes.

He presents plans call for large, multiple-engine cargo passenger planes of "unique design," to be manufactured at the Willow Run plant which is now turning out B-24 Liberators.

Experiments.—Ford goes as far as to forecast production of new type of plane as possibly revolutionizing long distance transportation as his Model-T affected short distance transportation.

"We have been planning for a long time to build a cargo plane at Willow Run," Ford disclosed, "and our ideas are becoming more solid all the time. Although we have not been able to give any great amount of time and effort to the project because of all-out war production, we have been experimenting with small models and engines."

Safety and Economy.—He disclosed further that there will be some new ideas in the Ford design, but added that he could not say much about it yet. He did say, however, that "we are trying to design a plane which will not need such tremendously long runways for takeoff, a plane which can be operated at a fraction of the cost now necessary for flying big planes, and a plane which will be as positively safe as it is possible to make it."

Ford and his consultants have been obtaining data from engineers and others around the world. The first plane for some months and it was understood that Charles A. Lindbergh, for some time attached to the Ford staff, has been a constant consultant with Ford on the type of plane and engines which would best suit Ford requirements and ideas for postwar production.

High Altitude Tests.—Lindbergh is said to have been experimenting with high altitude engines with the indication that some of his experi-

tion and completion of heavier and strengthening frames at Shelby Co., Tennessee.

Chemical Allocation.—The expanding aviation program moved WIBS to place under allocation metallic sodium, an essential chemical in high-octane gasoline manufacture, also in making phenolic airplane noves. Orders for more than 1000 pounds a month must be filed with the Chemicals division, WIBS, for authorization on or before the 10th of the month preceding the month in which delivery is required. Manufacturers of less essential items will be able to obtain substitute chemicals, WIBS said.

Full Work Schedule.—With the single exception of the Christmas week-end, full work schedules should be observed in all war plants, Douglas M. North, WIBS chairman, announced. Winter continuous operations are essential, such as blast furnaces and open hearth furnaces producing carbon steel, it was requested that work be started as soon as the Christmas week-end.

DPC Contracts.—\$3,452,666 worth to Vega Aircraft Corp. from Defense Plant Corp. to provide plant facilities in California. A contract executed with Chrysler Corp. to provide equipment for a plant in Ohio will cost about \$48,000. DPC increased a former contract with Chrysler by \$48,000, to provide additional equipment at a plant in Michigan, bringing the over-all commitment to about \$415,000. An increase in contracts with General Motors Corp. and Amco Manganese Co. was also announced. For additional equipment at plants in Ohio, GM gets approximately \$1,600,000. Amco's share of \$400,000 for aircraft equipment at its New York state plant brought its overall commitment to about \$7,130,000.

NLRB Action.—Trial Examiner Max G. Baron of the National Labor Relations Board recommended that Liberty Aircraft Products Corp., Farmingdale, N. Y., cease and desist from discouraging membership in UAW-CIO or from interfering in any other way with employees' self-organizational rights. NLRB directed that elections for railroaded plant protection employees, foremen and grades at Fairchild Engine & Airplane Corp., Aircraft division, Hagerstown, Md., be held within 30 days of Nov. 4. The vote will be for or against representation by UAW-CIO.

Discussed was the petition filed by Associated Engineers and Technicians (AETech). The Board found

that a unit composed of engineers in the design department of Lockheed Aircraft Corp., Burbank, Calif., was inappropriate for purposes of collective bargaining. NLRB also dismissed petition filed by International Association of Machinists, AFL, stating that operations of Brayton Flying Service, St. Louis, at Lambert Field do not affect interests common to the members of the Am. United Office and Professional Workers, CIO, who were seeking for employees in the Temple Unit, Curtiss-Wright Corp., Airplane division, Buffalo plants.

Army Navy E.—Army-Navy production awards went to the Kollsman Instrument division, Square D Corp., Elkhart, Ind., N. Y., and for the second time, to Pesco Products Co., Cleveland.

Started in 1922.—Admiral Richardson, whose promotion has just been confirmed by the Senate, joined the U.S. Naval Inspector of Aircraft, Corpus Christi, L. I., in 1922. He received his commission as Naval Officer in 1903 at Pensacola, Fla. Since then Admiral Richardson has had a succession of aircraft posts including Inspector of Naval Aircraft at Glenn L. Martin Co., plane major officer in the assembly and repair department; and was stationed in the Procurement and Maintenance Section of the Bureau, the Airplane Design Section, on the staff of the Commander of Aircraft Battle Force; as aeronomical engineer for the construction corps of the

James P. Murray, Boeing Aircraft Co., Aeromarine Chamber of Commerce and Tom Mergen, Sperry Corp.

Davison's Successor Veteran Naval Flyer

Richardson, new assistant chief of aeronautics bureau, entered service 21 years ago.

Ret. Admiral Lawrence Bauer Richardson, new assistant chief of the Navy's Bureau of Aeronautics, and Naval aviation veteran of 22 years' service, has been named to replace Ret. Admiral Ralph E. Davison, pioneer Navy aviator, who is going as sea duty.

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assistant of the Bureau of Aeronautics. He also served at the Naval Aircraft Factory in Philadelphia.

He returns to the Bureau from the West Coast where he was material officer in the Fleet Air

Admiral Davison took up flying in 1919 and received his wings at the Naval Air Station in Pensacola, Fla. He did experimental work with torpedo planes and took training at Kelly Field in land planes. Admiral Davison has served aboard many of the U. S. Navy's aircraft carriers. He has been in Bureau of Aeronautics since 1941.

Woodward Cites Gain In Brewster Output

Points to marked increase in firm's percentage of "Coral" quota.

Ret. Admiral Clark H. Woodward, chief of the industrial interests division of the Navy, lauded recent plane production of Brewster Aerocraft Corp. at a ceremony unveling a plaque to honor 4,631 former employees in the Service.

The admiral and the company allied 81 percent of its Corrider fighter quota to Brewster, explaining that the firm had been only 33 percent to Oct. 31, but that it had been almost doubled in the remaining ten days of the month.

Kaiser Reports Gain.—Henry J. Kaiser, head of Brewster, has reported output on the up-grade for the first part of November.



UNITED PUTS BUGS IN THIS ENGINE:

This is how United Air Lines provides a portable engine for men in training at the new Chicago school for mechanics' helpers. The school supervisor puts the "bug" in the engine and sets it up to the students to get them to the Pratt & Whitney C series engine develops 1,200 hp at 2,450 rpm, and drives a Hamilton Standard-23 hydromechanical propeller.

THE AIR WAR

COMMENTARY

Three-Way Air Assault Stepped Up In Move To Knock Nazis Out of War

Allied strategy indicates increasing large-scale bombing attacks from south and east, as well as from Britain, in gigantic softening-up operation.

Outstanding result of the Moscow conference thus a military stand-point in the quietened pace of the war is the west resulting from a genuine coalition of the great powers of the United States, Great Britain and Russia in a concentrated effort to knock out Germany within a matter of months.

Russia's great land drive in the Ukraine continues to deal the Wehrmacht staggering blows. Lancers and Hulks of RAF's Bomber

Command and Fortress and Liberators of the 8th Air Force, in greater numbers than ever before, wage devastating attacks by night and day from the west; and the newly formed 20th has opened up a series of smashing assaults from the south. All this however, was in the cards before Moscow. What is decided now, arrived at, what new plans made which would hasten the defeat of the common enemy?

► New Bomber Springboard—The



SEAPLANE TENDER ON GUARD:

Four pictures of the Navy's seaplane tenders have been released, although they are as yet all through the Pacific area. Fronted under the wing of a Catalina, this 2,990-ton tender is shown at anchor somewhere in the Aleutians. Another Catalina and an auxiliary tender are shown beyond. This ship "mother" Catalinas, Night fighter observation planes and PT boats, stocking their fuel, supplies, and ammunition, making repairs, and housing flying crews.

fact that the Red Air Force has been used for the most part in tactical support of the Red Army has tended to obscure its great part in the mounting victory. In preparation for the summer offensive, from late March to the end of June, Russia's air force employed its long range heavy bombers against strategic targets in East Prussia, the Baltic states and the Nazi communication and supply lines with great effectiveness and a low percentage of losses. Improved models of these bombers are ready to pick up the ball during the coming months.

In September, 1942, the Red independent Bomber Force was not completely reorganized, and last year's efforts may have to have been a mere "washout." That outfit has the same strategic objectives as the RAF Bomber Command, the U. S. 8th Air Force Bomber Command in Britain, and the 18th Air Force, soon to be moved up from bases in Tunisia to southern Italy (especially Foggia), and possibly Sicily and Crotone. These "strategic" air forces are out to destroy the Nazi war machine from within.

► Russia Bases for Allies—By Russian bases we don't mean Siberia. In addition to the renewed activity of the Red Bomber Force, another "sharpen the wits" move would be the granting of air bases well beyond the present battle line in Russia for the use of American and British long range heavy bombers, a type which the Red Air Force has not built in substantial numbers, owing to its growing need of medium and types of fighters, escort planes and dive bombers. This would provide an East-West shuttle bombing service of tremendous value.

All evidence points to the fact that the battle of the Baltic is fairly well over, except for a few remaining important targets and occasional air attacks on points where renewed activity is indicated. However, far to the east—in Siberia, Poland and Czechoslovakia, 600 to 800 air miles from Western—czech vital heavy industry has been concentrated.

► Shuttle Service—Allied four-engine bombers from British bases with heavier bomb loads for the one-way trip, could strike smashing blows at these factories and then proceed to bases in Russia, say at Sverdlovsk, an additional distance of some 400 miles and comparatively free from strong enemy fighter opposition. The same goes for the return journey. A significant straw in the wind is the recent appointment of Brig. Gen.

THE TOUGH OF TOMORROW IN THE PLANES OF TODAY



More Air Power for another United Nation

The Brazilian Air Force will soon get six-cylinder, inverted, in-line, air-cooled Ranger engines made in Brazil, under a contract recently signed by that good neighbor's Government and the Fairchild Engine and Airplane Corporation.

Brazil-made Rangers, to power its air force's primary trainer, the Fairchild PT-19, will enable Brazil to turn out better pilots than ever in an even shorter space of time.

Ranger-powered PT-19's, with "fighter" characteristics, are ideal for the strenuous course of aerobatics included, today, in practically all United Nations' primary flight training. Unlike the trainers used in

the last war, the PT-19 with its Ranger engine, can safely do every maneuver in the book: slow rolls, snap rolls, Immelmanns, loops, half rolls, inverted combination exercises and turns, vertical reversements, spins, and combinations of these. The result—better pilots trained faster.

Brazil-built Rangers will also power Moris M-9 biplanes and 2-engine Grumman Widgeons currently seeing service in Brazilian coastal patrol, Amazon River patrol and mail delivery. Thus, to the Brazilian Air Arm is added that "touch of tomorrow in the planes of today," which characterizes Fairchild planes and engines everywhere.

BY U. S. WAR BONDS AND STAMPS

 **RANGER** AIR CRAFT ENGINES

Division of Fairchild Engine and Airplane Corporation • Farmingdale, Long Island

Major B. Vandenberg, deputy chief of the Air Staff, as a lend-lease advisor in Russia. American and British military missions are already at work with Russian military leaders, and a Joint Staff may be in the making.

► **Importance of Fogga.**—The tremendous value of Fogga as an air base for devastating blows from the south will hardly be realized until it is put into use, which should be within the next few weeks. Engineering work must be completed on the airfields, bar supply and service facilities must be set up, and the enemy must be driven further north before large numbers of the fog. Free French Liberators can start to bring up to the new base. Fogga is the strategic jewel of the entire Mediterranean campaign.

This center permits our strategy over the Adriatic Sea and Balkans coast, provides a springboard to bases off the Hungarian oil fields at Ploesti, knock out such vital but seldom-bombed targets as Friedlandshafen, Marien, Posen, Nuremberg and Leipzig, and smash industrial and communication centers in north-east Italy.

► **Barbaro Monroe.**—Also from Fogga, by a southern shuttle route, with a Bari base, say at Kharakov, the Balkan satellite states could soon be knocked out of the war by our power, as Italy was, and the retreating Nazi forces further har-



A "CAT" GETS A CHECK-UP:

An amphibious version of a Cessna PBY was photographed by Cessna-dated Vultee Aircraft Corp. as the landing gear was extended into check pits at the company's seaplane base at San Diego.

rassed by air blows from the rear, smashing up their communication and supply centers.

All this would be right on the beam for the 15th Air Force, which according to reports will eventually be commanded by Major General Doolittle, who led the Strategic Air Force in the North African campaign. This would leave the 12th as a Tactical Air Force to continue its invaluable support of the advancing Allied armies. Both would continue under the air command of Lt. Gen. Spaatz, one of America's top flight officers, and one who incidentally, like the late Lt. Gen. Frank Andrews, has consistently seen the greatest value of the air assault from the south as part of the knockout air strategy.

► **Whirlwind from the West.**—Nevertheless promises to provide an altitude high in the number and weight of devastating blows by the RAF, RAAF, RCAF, and in Britain. Here, if anywhere, the burning question that Germany can be knocked out of the war by air power alone, from the City by city, target by target, the master plan is being worked out. The air offensive still has the edge and these boys mean to keep it.

► **Air Power and Invasion.**—While in England recently, Gen. Arnold delayed the air program was just about on schedule, and after that would come the invasion of the continent. The outlines of the Allied

air setup for this supreme effort are beginning to emerge. Details and personalities may differ when finally announced, but the general scheme seems to be in order.

If Maj. Gen. Doolittle is confirmed as heading up the Tactical Air Force, and if the British choose Gen. Sir Arthur Coningham who headed the RAF in Tunisia, this will bring together again the two air leaders who played such a vital part in driving the Africa Corps out of Libya, and who with Gen. Montgomery brought the air-ground team to such a high degree of perfection.

In any case, the Tactical Air Forces—British and American, or united in one—have been leaders in the forefront of military advancements in history. The better the Strategic Air Forces can do their stuff during the next few weeks, the less costly will the great invasion be.

—NATHANIEL

North American Asks WMC Dallas Study

Request Washington agency to investigate manpower utilization at criticized plant.

A study of manpower utilization at a nuclear power plant at North American Aviation's plant at Dallas which came under the scrutiny of the Truman Senate investigating committee and was the object of a personal study by Charles E. Wilson, WPA executive vice-president.

► **Washington Aide Gets Assignment.**—The survey is being made at the request of J. H. Kindelberger, president of North American. The request was granted by the War Manpower Commission, which assigned G. C. Cheever, of the WMC Washington office, to do the job.

► **Tunney Delays Testbed Needs.**—Senator Tom Connally, of Texas, and he believed there were a number of state men in Dallas and surrounding territory who, although not aircraft men, are trained in production and supervisory work and added that "many of these people were not given sufficient consideration when they applied to the North American plant at Dallas, which seemed principally interested in hiring as many untrained workmen as possible."

► **Estimates Reduced.**—A reduction of 10,000 in manpower estimates for the plant was recommended by Wilson and subsequently ordered by the War Manpower Commission.

With the pilot of every Air Transport plane you'll find... RADIO

Locomotive, Motor-car, Airplane—these things alone are not sufficient in themselves to create a dependable transportation system. The simple fact that man can fly in an airplane does not necessarily provide safe air transportation. The auxiliary equipment and accessories have provided the "missing links" in man's great conquest of the air. The science of electronics—which is another way of saying Electron Vacuum Tube—has for example contributed as much to safety and dependability in



air transportation as the skill and craftsmanship in designing the airplane itself. Instrument landing devices, cross country beacons, communications and today other now secret electronic equipment rank in importance with motor, fuel cells and wings. Electron vacuum tubes are first choice in the air transport industry. They have long, successful experience in this field and their dependable performance has contributed much to the enviable safety records established by the major airlines.

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AIRCRAFT PRODUCTION

Post-War Plane Demand May Drop To 3.7% of 1944 Peak, Report Says

Survey prepared for National Resources Planning Board says 1944 program used at 129,000 planes last August.

By BLAINE STUBBLEFIELD

Total postwar demand for planes of all types, from the U.S. aircraft industry, which has been expanded 300-fold since 1939, will be 3.7 percent of peak capacity in 1944. This forecast is made in an unpublished report completed in August by the National Resources Planning Board just before it was finally liquidated when Congress refused further funds.

Malvin A. Brummer, author of the report, says the 1944 schedule last August called for only 129,000 planes, which cost \$19 billion dollars. The 1944 program has been revised downward recently to approximately 130,000 planes, 13 percent will be combat types, 13 percent transports,

and 17 percent trainers. In addition, he says the industry will produce spare engines, propellers and parts worth 10 billion dollars, bringing the total to 23 billion dollars.

► **Concessions.**—The 1944 schedule represents a cut-back of about 10 percent in wartime 15 percent is now dollars—below the original figure. This reduction was a concession to aerial capacity, the report states, and did not reduce a lesser military requirement. The Board believes plane production will continue at capacity when Germany falls, with changes to fit the war on Japan.

War investment in aircraft factories through April 30, 1943, is given

Destination	Millions	Percent
Military	865	3.3
Commercial		
passenger	82	5
Commercial, cargo	41	3
Commercial, excess	16	1
Commercial, spare	10	1
Total—Domestic	315	2.6
Foreign	219	2
Total—Foreign	1,083	3.7

► **Air Policy.**—It is predicted that the number of planes surviving hostilities plus those in transit and process will be twice that adequate for normal establishment of a U.S. air force and for participation in any world peace plan. Existing air forces and productive facilities will have been abolished and will constitute small threats.

For the first few years following the war, domestic airline business may reach eight to twelve billion passenger miles or five to eight times 1941 volume. One Current Commands, for example, operated at 3000 hrs annually, can deliver 14 million passenger miles. Thus the equivalent of 350 to 450 such units would be needed for this volume.

► **Cargo Rates.**—A minimum point-to-point air cargo rate of 30¢ per ton mile is indicated for the immediate peace period, with ground service costs adding perhaps 3¢ or 4¢. This rate cannot begin to compete, the report states, with the average railroad rate of 30¢ per ton mile or the truck rate of 4¢. But the airlines can handle a part of long-haul freight which travels at 10¢.

The Board's opinion was that the airmail, during the first two years of peace, can be carried on regular passenger flights. First expansion requiring additional planes will be



LOCKHEED LIGHTNING PRODUCTION:

The P-38 assembly line area shows why output of the Lightning is constantly going up. A new system of subcontracting is expected to boost production of these fighters to hundreds a month. The mechanized line starts with first leg completed, then cartridges are

transferred to a second line moving in the opposite direction. Then to a third leg which moves in the opposite direction again. Production numbers on the Lightning have been halved since delivery of its 200th fighter. Good news for us and bad news for the Axis.

for the in-flight pickup system.

► **Overseas.**—Mr. Brummer quotes the Civil Aviation Board on overseas passenger traffic, saying it may increase in the two-year period to six times that of the year ending in April 1942, and that it can be carried in about 25 planes the size of Martin's Mars. Allowing for cargo, annual demand for planes might be 20 to 25 million dollars.

In the field of private flying, the report concluded that 15 to 20 percent of the families able to buy planes will purchase aircraft at an average purchase cost of \$2800, do buy them, the market will be about 30 million

dollars annually. This is based on data reported that per hour cost of private flying is \$3.14 to \$10.25, and on 600 to 900 hours per year. Development of the helicopter is expected to take several years.

Heavy Bomber Output Hits All-Time High

Output of Liberators and Four-engine aircraft is over 1,000 monthly.

Emphasis being placed on heavy bomber production, which best estimates place at over 1,000 in October.

NEW PLASTIC SHIELD:

This new transparent Lamson plane personnel shield presents air drafts from striking the propeller blade and permits operator to see the position of the blade—perfectly balanced as it must be for progressive checks as they are ground. One of the shield alternatives now in use consists of blades to special enclosed room free of draft. Tests are said and blade must be perfectly balanced.

is pointed sharply up in the report of Harry Woodhead, president of Consolidated Valley Aircraft Corp., that the San Diego division last month produced more four-engine bombers than ever had been produced by any aircraft company in one month.

This came on the heels of an announcement by P. G. Johnson, president of Boeing Aircraft Co., that production of Flying Fortress for the month of Oct. set all-time record and that it was possible to predict that their production would continue to increase until by the end of the year the company will have exceeded the goal set by the War Department for accelerated monthly deliveries.

► **Efficiency Rating.**—Woodhead disclosed in his report that the War Production Board rates Consolidated Valley as operating the most efficient plants in the nation in three aircraft categories for the past five months.

These are San Diego division in heavy bomber classification, Nashville division in the single engine bomber field and Valley Field division, first in basic or advanced trainer and utility transport classification. The Siemens division, he said, was



MORALE BOOSTER:

West Coast Army officers are considering as a morale booster the planned display of completed warplanes at indoctrination centers. Present branch plant employees of Vega Aircraft are shown here respecting the latest model B-17G, as part of a plan to show these workers the completed airplane which they helped build. Col. Guy Kirkham, commanding officer, Bremerton Field, uses some "crossed bombing" practice from the bombardier's seat in the nose. With him is Capt. C. J. Long, of the Vega Army division in Bremerton.



Trail Blazing in the Skies

1935



FIRST STREAMLINER BUILT ON AERONAUTICAL PRINCIPLES was the famous "Conne," designed and fabricated by Goodyear's Aircraft division in 1935 for the New York, New Haven & Hartford Railroad. In the Conne, lightness-with-strength was achieved by designing roof, sides and floor of the car as main load-carrying elements of the structure—the same arrangement of monocoque construction widely used in aircraft. This undertaking was part of Goodyear's early work in exploring the possibilities of light aircraft metals that contributed to the development of the superior alloys in use today.

HOW GOODYEAR AIRCRAFT CORPORATION SERVES THE AIRCRAFT INDUSTRY

1. By manufacturing admirably strong aircraft structures.
2. By designing parts for all types of aircraft.
3. By re-engineering parts for aircraft production.
4. By extracting our research facilities and the resources of our design and engineering departments to investigate and solve unique problems.
5. By building complete airplanes and aircraft.

1943



METALCRAFTING EXPERIENCE THAT STREAMLINES MANY PRODUCTION PROBLEMS. As a result of its long experience in aeronautical design and light-metal fabrication, Goodyear is today one of the largest producers of subassemblies for all types of aircraft. These include complete empennages and wing panels, stabilizers, and all their component parts, cabin structures, floats, and float mechanisms—for both "low" fighters and heavy bombers. And in addition Goodyear is one of the producers of the Conne—a fact that bespeaks Goodyear's ability to handle complete and intricate production problems on a large scale.

Block the attack
with
WAR BONDS

GOOD **YEAR**
AIRCRAFT

second in this classification.

Output Up Sharply—Latest indication of production efficiency of the War Production Board, "Woodhead said, "show Liberator output in terms of airplane pounds per employee per day was 39 percent greater at San Diego during July, August, September and October than that of any other manufacturer of heavy bombers."

He said "production of Consolidated B-24 Liberators at San Diego increased 75 percent during the ten-month period from January through October, despite a 17.6 percent loss in production workers."

Woodhead's Problems—Woodhead said the hours necessary to build a Liberator have been reduced 35 percent in the past ten months and that this follows a cut of approximately 50 percent in 1942.

"Assuming manpower problems are solved and sufficient materials are received," Woodhead said, "Consolidated Vultee will meet steadily increasing production schedules set for the coming months."

He added that the October Liberator production record at San Diego was attained at the same time schedules set by the Navy for output of Catalina and Coronado flying boats were met.

RAF Gives Details On Mosquito Bomber

All-wood craft's construction described by British Information Service

As winter draws on and RAF Mosquitos still swarm over Germany and Germany-occupied Europe, the British have disclosed some details on the new bomber, including the fact that it was flying 22 months after the heavier bombers won on the drawing board. They claim this is a world's record.

This achievement is the more remarkable because the Mosquito's airframe is made almost entirely of wood. Only the ailerons are metal. The rest is spruce, pine, spruce, English ash, and balsa, a wood lighter than cork.

Glue and Plywood—The Mosquito's fuselage is made in two parts, as long frames or jigs. Over each frame is stretched, first, a skin of three-ply sheets the thickness of a penny, then balsa filling, then, another skin of ply-wood.

This "sandwich" is pressed hard against the frame and glued solid.

Vega Wanes

All ships that come out of the sprawling Lockheed and Vega factories will carry the single identification "Lockheed" after Nov. 30.

On that date absorption of the identity of Vega Aircraft Corp. by its parent, Lockheed Aircraft Corp., will be completed.

Gradually working away from the confusing "Lockheed-Vega" name combination, the corporation now stands ready to re-enter in peace production the name that has become a wartime byword.

Already, popularity of the "Lockheed" trademark was well-established long before the war, dating from 1918 when the company founders, Allan and Malcolm Loughead, adopted the phonetic spelling of the company's name, and a year later, first flew one of their first aircraft, the all-wood "Vega" high-wing monoplane.

Under the direction of President Robert S. Gross, Lockheed emerged Vega Aircraft Corporation shortly before the war to build its first transport, the "Fleetair." Production of all Vega aircraft by Lockheed two years ago, and Vega was confident that they had altered its activities closely with Lockheed production, led to the present absorption of Vega's identity.

British figures report that in the six months ended Sept. 30, Mosquitos made 1,000 missions, each on some 30 German industrial cities. They reported: Cologne 38 times, Berlin 27 times, Dusseldorf 26 times, and Dusseldorf 25 times. Of the Mosquitos taking part in the attacks, only 11 are missing.

Construction is done in two parts to facilitate work on controls and accessories which have to be put inside. When they are in, the two parts of the fuselage are glued together like the rest.

Home to Britain—Many Mosquitos are made in Canada and flown direct to airfields in Britain, where hundreds of carpenter shops and furniture factories make parts for the bombers.

Proposers of the Mosquito held that wood construction has some decided advantages over metal in a machine as fast as the Mosquito, since wood is an insulator which could stand severe, can absorb vibrations and bullet hits without breaking up and floats also, any skilled carpenter can repair it.

400 Miles an Hour—Although the Mosquito has never been officially made known—British claim it is the fastest bomber in the world—a Swiss report puts its speed at about 430 miles an hour, just over seven miles a minute. Its speed does make it possible for the Mosquito to bomb specific targets at low level without worrying too much about enemy ground defense and fighters in a rail on Copenhagen Jan. 27. Mosquitos bombed submarine-engine factories from as low as 10 ft. and only one airplane was lost.

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Vets Job Preference Program Studied

Industry eyes General Aircraft's plan to meet hiring problem.

A program initiated by General Aircraft Corp. under which only discharged veterans of the present war are considered for employment is attracting attention throughout the aircraft industry. This effort to systematic private re-employment of service men was announced by H. M. Jaynes, president.

Jobs for 200—He estimated on the basis of the current turnover rate that General should employ nearly 200 men during the coming year. Twenty men were hired during the first week of the program's operation. The plan apparently appeals only to skilled assembly workers.

Wright in Volume Production On New 2,200 hp. Cyclone Engine

Company reveals details on air-cooled, radial, one of most powerful service aircraft power planes in operation.

Despite its tremendous power, the new engine has a diameter of only 55 inches, the same as that of the original nine-cylinder Cyclone which was introduced in 1927 with a rating of 125 hp.

First in "Constellation"—While information on specific military aircraft installations is still restricted, it is known that the Cyclone-16 made its first transport appearance in the four-engine Lockheed C-66 Constellation, a 40-passenger, high-speed plane originally built by Transoceanic & Western Air and the Pan American Airways.

Design and development work on the engine was well started before the outbreak of hostilities and that "we originally planned this engine for transports such as the Constellation and passenger planes, even larger."

Model Improved—Based on a previous model of the same displacement which developed only 2,000

STUDY NEW WRIGHT:

Li Col. Carl B. Berkland, AFM representative, and Myers B. Gordon, vice-president and general manager of Wright Aeronautical Corp., inspect the new Cyclone 16 developed by Wright which develops 2,200 hp. This engine, one of the most powerful service aircraft engines in the world, is now in volume production.

hp., the Cyclone-16 is now being produced in a new Wright plant constructed specifically for this engine. In addition, an automotive company has been licensed for quantity production of the engine.

Among construction features is a nose section especially designed to permit use of a close-fitting cowling to further decrease air resistance. The engine has aluminum alloy cylinder heads and nickel-steel sheet cylinder blocks.

Construction utilizes a steel crankcase, which permits taking more power from the engine than possible with an aluminum case and a light weight magnesium in the nose section and supercharger housing. The engine's weight is just fractionally over one pound per horsepower.

Reduction Gear System—In order to transmit the 2,200 hp. to the propeller at the most efficient speeds, Wright engineers designed a reduction gear system which they believe is probably the lowest ratio ever used on any aircraft engine.

Extremely large, broad-bladed propellers are used for the engine in order to keep the blade tip speeds within efficient limits and these propellers turn at much less than half crankshaft speed.

At some cruising speeds, the propeller turns at only 600 revolutions per minute.



NEW WRIGHT CYCLONE 16:

The new 2,200 hp engine which Wright Aeronautical Corp. of Paterson, N. J., is now producing is quantity for use in heavy, long range bombers, fighters and transports. It is one of the most powerful service aircraft engines in the world. Lt Col. Carl B. Berkland, U. S. Army Air Forces resident representative (left) and Myers B. Gordon, Wright vice-president and general manager, watch a girl attach ignition harness to the engine.



VEGA TO LOCKHEED:

Courtlandt S. Gross, president of Vega Aircraft Corp., on Nov. 30 becomes vice-president and general manager of Lockheed Aircraft Corp., on right-hand man is to his brother, Robert S. Gross, Lockheed president, with the absorption of Vega by its parent, Lockheed.

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ley, Rutherford, N. J.

Buckley is the son

of a St. Louis beverage firm

for six years. He succeeds Charles

Olson, recently named Central Re-

gional mail and express manager in

Chicago.

Gen. Norman M. McNeil (photo), who

joined Pennsylvania-Central Airlines

as a station manager at Flint,

Mich., five years

ago, has been ap-

pointed chief

Flight Test Sec-

tion. With PCA,

he has been co-

captain and captain

from Detroit, in

Washington as a

captain in the

Military Transport Division and as

assistant to the chief of MTD flight

testing. He succeeds Capt. G. A. Mc-

Kee.

R. H. Glahn, executive vice-president

of Chamberlain Corp. since October

1933, will become vice-president

and general manager. He was formerly

assistant general manager of Besler

Corp. and factory manager of

Pitts & Whiteman

Co. and manager of

the Besler plant in

Waukegan, Ill. He suc-

ceeded James J. Glahn

as vice-president and general manager

of Chamberlain Corp. in 1933.

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VIBRATION May Have Caused This

Common causes of mechanical failure of fastenings are vibration-loosened connections. And loose connections can result in anything from an annoying body squeak to a loose wheel—and in serious accident. The answer to any vibration-loosened connection is a vibration-proof fastening. After Varsity, automobile manufacturers with an eye to added driving safety will protect their ears with Boots Self-Locking Nuts which withstand severest vibration.

More Cargo, When They Fly With Their Boots On

Cargo planes are performing heroic service ferrying men and supplies to the fighting fronts. Almost always loaded to capacity, they are constantly subjected to terrific vibration stress by engines which must strain to the limit to lift the big ships from the ground and keep them in the air. That these planes are able to "take" severe vibration without "coming apart at the seams," is due largely to the vibration-proof Boots Self-Locking Nuts which protect them.

Boots Nuts are not only tough, they are also lighter than other nuts, use many pounds on each plane...thus allow for more cargo. In addition, they can be used and re-used as often as desired—literally "outlast the plane." Boots Self-Locking Nuts, standard for every type of U. S. aircraft, meet the exacting specifications of all government aviation agencies.

BOOTS

Self-Locking Nut For Application In All Industries

BOOTS AIRCRAFT INCORPORATED • GENERAL OFFICES, NEW CANAAN, CONNECTICUT

AVIATION NEWS • November 22, 1943

Marinus L. Perry has been named supervisor of counter service for United Air Lines in Chicago. He formerly served in the same capacity in Los Angeles. His new responsibility will be to coordinate the work of UAL's traffic controllers throughout the entire system.

W. Kent Wheeler, in the aircraft business for 14 years both as an executive and as a pilot, has joined Ryan Aeronautical Co. as Dayton liaison representative of the aircraft manufacturer. Mr. Wheeler has had 10 years with Fisher Aircraft Co., a year with Lockheed, a year and a half with Glenn L. Martin Co. as assistant supervisor of production, and jobs with several small aircraft companies. At Dayton, he will specialize in engineering service for Ryan aircraft systems manufacturing division, working in collaboration with Paul H. Walker, head of Ryan's liaison office with the AAF since last June.

Jackie Keefe (photo), has been appointed to the position of director of public relations of the Lawton School of Aeronautics, Lawton, Okla. Mr. Keefe was formerly vice-president of Hales and Keefe, sales engineers.

W. A. Peterson, president of United Air Lines, is a busy man these days. He recently was elected to the board of directors of the City National Bank & Trust Co. of Chicago, named to the National Industrial Conference Board and elected a director at large of the Illinois State Chamber of Commerce.

B. A. Beck (photo), formerly with General L. Martin Co. in Baltimore has been named to the position of assistant manager of general design engineering in GoodYear Aircraft Corp.'s plants A and B, Akron, Ohio.

A. F. Morris, plant supervisor at East Hartford for Heselton Standard Propeller Division of United Aircraft, has been appointed assistant general supervisor. He was formerly with Standard Steel Propeller Co., predecessor of Heselton, with Wetherspoon and Austin Tool & Machine Co.

The following naval aviators have assumed their new posts: Cmdr. Ross F. Mahan, USNR, has reported for duty in the Radio and Electronic Branch, Bureau of Aeronautics; Lt. Cmdr. George Ormsbee, Jr., USNR, will serve

After a long absence, James V. Goffa is back at his desk in Lockheed Aircraft Corp.'s publicity department.

Warren L. Goss (photo), Transamerica and Western Air's district traffic manager at Dayton, has been promoted to the newly created post of manager to the Central Region traffic manager. He has been in the airline business for the past 24 years.

Paul E. Joshua, general manager of Hawley Corp., Los Angeles die-casting and hydraulics firm, was elected vice-president of All American Aviation. He was previously director-treasurer of the small propeller company from its inception in 1938.

In the Procurement Division, BACR, Lt. Cmdr. Paul P. Berard, USNR, has been detached from the Aviation Procurement Division, BACR, USAW, has assumed duties of director, Naval Transport Division, DCND, returning Capt. J. F. Whitney.

Promotion to Lieutenant colonel of Robert E. See, on leave from his duties as president of Continental Air Lines Inc., has been announced. He is presently stationed at Morrison Field, West Palm Beach, with the Air Transport Command.



PAA'S LONDON CHIEF MARKS 10 YEARS ON JOB:

John C. Leslie (left), Atlantic division manager of Pan American Airways, congratulates Richard C. Long, PAA's regional director for the United Kingdom, Zire and Portugal, on the occasion of the latter's completion of ten years with the company. Long, while headquartered in London, was with the Government of Commerce as a trade commissioner and commercial attaché for ten years before entering the aviation field.

AVIATION NEWS • November 22, 1943

Airline Survey by Brokerage Firm Lists Factors in Industry's Future

Contains valuable statistical material but fails to give completely accurate picture of aviation industry and problems facing individual companies.

By ROGER WILCO

Widespread interest in airline securities has brought various studies on the industry by a number of investment firms. Recently released, and assured of a wide circulation, is a 34-page review entitled, "Airline, 1943," issued by Merrill, Lynch, Pierce, Fenner & Beane, many-branched New York Stock Exchange firm.

Broadly written, this survey contains considerable reference material on the general aviation as well as extensive attention to local trade. To a sophisticated airline observer, however, much of the report is superficial and, in a few instances the report is actually misleading.

Realistic—The study does attempt to take a realistic view of the industry's present and future and does a reasonably good job in evaluating pertinent factors. There are page reviews of each of the eighteen airlines having securities publicly outstanding, also are noted



AIRLINES—1943:

Global map based on developments made possible by growth of Army and Naval Air Transport Services shows probable air routes to post-war era. The illustrations appear on cover of new brochure on "Airline—1943," published by Merrill, Lynch, Pierce, Fenner & Beane.

Sound Thinking—In examining the future of air cargo operations, the sound thinking expressed by aviation people is reflected in the statement: "Even if the airlines wanted only one-tenth of railroad less-than-carload freight it would let almost 100 times all current air cargo—certainly something to shoot at."

In addition to enumerating the favorable factors, cognizance is taken of the specific post-war problems to be faced by the industry. The disbanding of the industry, strict regulation, severe international competition and Government regulation all serve to place doubts in the investor's mind.

Costs Problem—The report's assertion that postwar "plane and equipment costs are sure to rise" will come in for a serious argument from many responsible quarters. United Air Lines' Patterson not so long ago stated that, because of higher labor costs, equipment costs may be expected to be materially higher in the postwar era.

The survey's statement that "over-all labor costs will also go down mostly because the U.S. military forces have 1,200,000-1,400,000 pilots, navigators, mechanicians, mechanics and ground crewmen" is also subject to considerable doubt.

The high standards, professional reputation and the place of organized labor in the industry will hardly make for "pilots at a dime a dozen."

The report estimates that the "Big Five" airlines (American, Eastern, Pan American, TWA and United) should earn at least \$15,000,000 for all of 1943, up fractionally from 1942's \$14,500,000. This participation, in the first issue of *Airways News* Aug. 2, 1943, indicated the factors mitigating against increased earnings for 1943 over last year. The same belief is here restated and the "Big Five" will do well to approach 1943 results this year.

Helpful Data—The historical and statistical data surrounding each of the individual airlines presented should be very helpful and find frequent use. However, for complete data on any of the companies involved, the investor would do well to make further examination. For

**\$200
...BAIL!**

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AVIATION NEWS • November 22, 1943



Safety first... last... and always... that's the bad boy which protects our kids who fly. * * * Meaning the hot planes ever built... with gear and equipment to match... crack drivers emphasize that no small part of their ability to concentrate on destroying the enemy, is their feeling of confidence in their safety chute... if need to leave the ship overtake them, * * * Swift leadership in design and Swift efficiency of production, are turning out the finest parachute that money can buy... and are setting new records for delivery! * * * * * *



Are Power is winning the war
... The more Roads you lay
... the more hosts they fly!

SWITLIK PARACHUTE COMPANY
Brenton, New Jersey

example, in the Braniff presentation, no mention is made of the fact that if a present CAB mail rate increase is sustained, the company's net income will be reduced by about \$145,500 for the first six months of 1943.

Biddeford—An interesting sidelight is provided by the TWA's policy of disclosing its interest and/or its general partners in airline securities. The 1942 edition showed that the Merrill, Lynch firm for its own account and its general partners on Nov. 27, 1942, owned a total interest in Braniff, Eastern, Pan American, Pan American, TWA, and United. A "substantial" interest was represented in American. Almost a year later, on Oct. 12, 1943, investments were confined to a small interest in Pan American and United. An interest in a company having a market value of less than \$93,883 is designated "small"; between \$86,666 and \$105,000, "substantial."

Financial Reports

Northwest Airlines, Inc. for the year ended June 30, 1942, reports net income of \$634,000 after charges and federal taxes, equal to \$3.61 a share on 175,000 shares of capital stock, compared with \$493,300 or \$3.53 a share for the preceding year.

Chesapeake and Southern Air Lines, Inc., has filed an amendment to its registration statement with the Securities and Exchange Commission in which it gives the offering price on the voting trust certificates for 80,000 shares of common stock to be sold to the public at \$17.80 a share. Proceeds will be used for new equipment to be used on present or proposed routes, reduction of plane losses and working capital.

From .42 to 1 to 1.43 to 1, and the ratio of current assets to current liabilities from 2.71 to 1 to .86 to 1. CPA's assets totaled \$5,563,788 compared with current liabilities of \$5,518,612. Capital surplus was \$1,245,742, earned surplus \$936,603.

Beech Airways reported net profit for the September quarter, after charges and \$221,250 taxes was \$266,543, the equivalent of 36 cents each on 700,000 shares. Last year the figure was \$195,903 after \$121,328 taxes, or 19 cents a share. CPA has no intention of issuing the balance of cumulative preferred to be authorized, nor does it intend now to issue any additional common.

Convertible Series—"Of this amount," Curtis said, "the corporation would plan presently to issue 350,000 shares in the form of a convertible series which would be offered to holders of the common stock in the ratio of seven shares for each 100 shares of common stock held."

Investment bankers are to underwrite the offering, probably headed by Harriman, Stoeley & Co. Inc., with whom talks are being held.

The stockholders also said that CPA has no intention of issuing the balance of cumulative preferred to be authorized, nor does it intend now to issue any additional common.

Vancouver-Victoria Seaplanes Planned

Canadian Pacific seeks permit for service, using fast-equipped Beechcrafts.

By JAMES MONTAGNES

Westcoast Canadian cities are preparing for a further advance in commercial flying. Canadian Pacific Air Lines is planning to establish a regular seaplane service from Vancouver harbor to Victoria next summer, although the Vancouver city council objects to shipping as well as aircraft using the harbor, since a commercial seaplane landing place has not been built at Sea Island, within a few miles of Vancouver. Sea Island is the civic airport and site of the Boeing Aircraft of Canada plant.

Test Flight Hangar—Construction of a big test flight hangar for CPA is well under way at the Vancouver municipal airport. The building is to be 266 ft. long, 130 ft. wide and 56 ft. high of all-wood construction and concrete foundation. The hangar is close to the airport seaplane landing and will be used to store and equip planes being tested.

CPA is to use two new twin-engine fast-equipped Beechcraft planes on the Vancouver-Victoria service, and is arranging for larger planes for use on the route from Regina, via Moose Jaw and Saskatoon to North Battleford, Sask. Provision of providing passengers with adequate ground accommodations in northern points is rapidly being solved with erection of passenger stations and overnight accommodations at strategic points, L. B. Ulrich, CPA president, reported after a 10,000-mile inspection tour of CPA facilities.

people with a PUNCH!

INSTALMENT TWO

A parrot we find told the story of Beechcraft employees. We told of their spirit of personal sacrifice and extra contribution to the war effort. Here is that story's continuation.

The production records of which stay up just daily proud a year ago have shown. Voluntary increases in War Bonds have been increased to more than 22% of our total gross payroll. Hundreds of Beechcrafts with a supercharge of enthusiasm and energy and loyalty have volunteered the ranks of the Beechcraft Reserve Council, some of whom are shown in these pictures of their Second Annual Review. These men and women voluntarily drill and practice in case free time so that they may be ready to cope with any catastrophe or emergency that may arise, whether caused by fire, sabotage, or act of God. They have sworn to protect life, war material, and the plant, in the interest of the war effort. They come down in departments of the Beechcraft organization, some without pay, and buy their own uniforms.

It's a great slogan that these people with a punch have adopted. This was a great business. And their record proves that they earn it when they try.

"LET'S KILL 'EM WITH PRODUCTION"

"to be continued until Victory"



A Reserve Guard platoon demonstrates a "Shear-head Wedge" formation used in aerial combat



Reserve Guard platoons show their proficiency in aerial combat ... a skillful storm of emergency communications



Beech Aircraft

CORPORATION

BEACHCRAFTS ARE DOING THEIR PART WICHITA, KANSAS, U.S.A.

TRANSPORT

Prehearing Conference Opens In Capital on Caribbean Routes

Nineteen companies are represented out of 21 seeking to open new air lines to Mexico, Central and South America, and Caribbean.

BY BARBARA DREDERICK

All but two of the 21 applicants to the Civil Aeronautics Board for permission to provide air service from the United States to Mexico, Central and South America and the Caribbean area, sent representatives to a prehearing conference in Washington last week. More than half the requests were filed within the last few days before the conference in a mad scramble to get on record as having interest in this area.

Missing were representatives for Southwestern Air Lines, which had just filed for an air transportation express route from St. Louis to Mexico City, and Andrew J. Burke, applicant for a route from Corpus Christi, Tex., to Monterrey, Mexico, to carry mail, passengers and cargo.

Arguments—Although Representative Francis W. Brown complained to company representatives that they were not being very specific in revealing the names to be considered in their cases some indications of forthcoming arguments were revealed. Stetson 498 of the Civil Aeronautics Act would definitely be an issue, Public Counsel Stuart Tripp stated. On this question, Grace Lee intends to show that there is nothing in 498 which prevents a shipping company from operating air service.

United Fruit Co. will contend that 498 does not apply to their case. Waterman Airlines expects to recommend to Congress that the act be amended to clarify or eliminate this action.

Challenge—International Airways questions the interpretation by either CAB or Congress of the meaning of 498 and believes shipper's share line can comply by meeting requirements of CAB, such as the divestment order in the case of American Export Lines.

Moore McCormack Lines agreed substantially with International but

stated that they also expect to bring up Sec. 213B5 of the 1938 Merchant Marine Act, in which the Maritime Commission was instructed to evaluate air service. If the CAB

had had this in mind in the American Export decision, counsel for Moore McCormack suggested the outcome might have been different.

For American Stand—Expecting to fight these interpretations, is Pan American Airways, whose counsel said his company would take its usual position on 498. Counsel for Pan American-Grace also indicated that his company will raise

most particularly the argument that hearings could not be held before late March or early April, and many considered these dates too late.

CAB Prepares Study—In one respect, the hearings will be unique in that CAB's economic staff is working on a study of factors which govern economic necessity and convenience in these territories, which will eliminate much duplication of effort by applicants. This study is to be completed by next month.

Probability is that all applications for these areas will be consolidated for one hearing, although certain days may be specified for particular portions such as Mexico, or the Caribbean, exclusively.

Both National Airlines and Waterman Airlines expressed the opinion that, as their applications have been before the Board for three years, they should be considered and disposed of before the proposed hearings.

Protest—Chicago and Southern Air Lines, Eastern Air Lines and Delta Air Corp. protested intervention in these proceedings by W. H. Grace and Co. It is allowed, they contend, that "any substantial stockholder in any company could intervene," according to Eastern's counsel.

W. H. Grace and Co. has filed an intervention on Eastern's application number 1860 to protest Pan American's interest in Balboa. "In view of the fact that Pan American and its four sisterlines on the board of Pan American-Grace are opposed to the extension of Pan American's route from Balboa to the United States,"

Present—Representatives of the following companies were present at the conference: American Airlines, American Export Airlines, Braniff Airways, Caribbean-American Airlines, Chicago and Southern Air Lines, Delta Air Corp., Eastern Air Lines, Gordon North-West Air Lines, International Airways, Moore McCormack Lines, Grace Line, W. H. Grace and Co., Pan American-Gulfstream, Pan American Airways, National Airlines, United Fruit Co., Pennsylvania-Central Airlines, Waterman Airline, and Western Air Lines.

BACK FROM CARIBBEAN: Edward Wesser, Civil Aeronautics Board vice-chairman, has returned from a "factfinding tour" of operators in the Caribbean. He is shown boarding a Pan-American plane at Miami, when he flew to Port-au-Prince. Other ports on his itinerary were Ciudad Trujillo, San Juan, Antigua, St. Thomas, Port of Spain, Barbados, Coracao, Kingston, Clarendon, Havana and Nassau. He returned to Washington Nov. 17, after being away two weeks. CAB will make important decisions on Caribbean air services in coming months.

Post Office Frowns On Future Subsidies

Postmaster General says expansion in smaller communities should pay in own way.

Post Office Department does not begrudge the financial aid it has given air transport, but it feels that future expansion of air service to smaller communities should be without subsidy. Moreover, it does not see the airplane replacing the motor truck when it comes to short haul traffic after the war.

Letter to Page—These views were outlined in a letter to L. Welch Page, Chairman of the Civil Aeronautics Board, from Postmaster General Frank C. Walker, for the record in the CAB oral-feed-back procedure.

Pointing out that his department deserved and sponsored the majority of the present air routes, Walker said the department's financial aid was "a most essential factor," but said the system has reached financial self-sufficiency.

Convenience and Necessity—Board development and expansion should continue until air transportation is available wherever public convenience and necessity require, but "the best interests of aviation will be served by healthy growth, induced by independent stability and stimulated by additional financial resources, rather than by financial aid which only requires early cessation."

Board Pessimistic—Future increases in air mail volume, Walker expects, will continue to follow closely the normal trade channels and will be absorbed by additional schedules and larger aircraft.

"Undoubtedly there are still potential routes, and feeder service areas, awaiting wise selection, where traffic potentials indicate early self-sufficiency, or where possible public benefit clearly transcends the factor of cost."

Sen. Marc Mall by Car—As the news reaches the letter continued:

"It should be borne in mind that motor transportation will be renamed after the war with increased emphasis. This medium is well adapted for short haul traffic and high in popular favor. Superceding by aircraft is not in immediate prospect."

There will be few of the many proposals for local and feeder air service that will meet the searching tests of practicability and economy in competition with surface transportation having inherent advantages."



CANADIAN PACIFIC SETS 100 PERCENT FLIGHT RECORD: Canadian Pacific Airlines' flight between Edmonton and Whitehorse, a 2,400-mile round trip, has completed a record nine months of 295 percent scheduled operation. This meant 223 consecutive round trips, some 475,000 round miles and 6,200,000 passenger miles. Nearly 7,000 passengers and more than 260,000 lb. of mail were to mail points along the Alaska Highway. Flight conditions along the route, which extends from the temperate zone in Yukon Territory, range widely. Temperatures vary from 60 degrees below zero to 100 above. In the photo, Capt. Ralph Odier, CPA pilot, is being complimented by Capt. James Bell [right], manager of the Edmonton airport, and G. W. G. McCrae, general manager, western lines, CPA, right. With Odier are Sheardown Smith MacEachern and First Officer Art Holden.

Kansas City Area Holds Feeder Talks

135 towns and cities in district to be represented at discussion.

A new type of round table, to provide opportunity for applicants for local air service to discuss their plans with representatives of communities in that area, is being held this week in Kansas City.

The Chamber of Commerce says its "Heart of America Local Air Service Conference" there Nov. 33 is the first of its kind, as far as it can determine. Chamber of Commerce and city administrative officers in 135 towns and cities in the Kansas City trade area have been invited, all of them from places covered in applications filed by existing and prospective air carriers with the Civil Aeronautics Board.

Applications—Thirty-four applicants, all of whom also have been invited to participate, have filed for

13 routes to and from Kansas City and affecting 346 communities.

Principal speaker will be C. Edward Losser, chief examiner for the Civil Aeronautics Board, who will discuss prospects for local service systems with particular reference to the best methods of community can take in the development of such systems.

The program will include such subjects as trade area airline service, feeder and pickup service, local and feeder services proposed by fixed base operators, and local service on trunk line routes. A demonstration of air mail pickup will be a feature of the meeting. Other speakers are T. E. Brundell of Braniff Airways, J. W. Miller of Mid-Continent Airlines, W. Riley Reed of Consolidated Air Lines, and E. Lee Tolman of TWA. T. E. Flaherty, regional airport supervisor for the Civil Aeronautics Administration, W. H. Clark, CAA senior air carrier inspector, and airport engineers, managers and airline technicians are to be available for panel discussions.

Tel-air means fine aircraft parts



Precision Machined Parts Can Help Your Production

The precision of special pistons is but one of the ways we have proved that Tel-Air production helps production in those plants requiring prompt delivery and quality workmanship.

Your problem may be quite different from a piston — it may be a stamping, or some part requiring a multiplicity of operations. Whatever it is, providing the diameter is not over 2" (except for chucking work) we believe we can handle it to your satisfaction. Send your blueprints today.

ON THE HIGHWAYS - IT'S

Teleoptic



IN THE AIR - IT'S

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MANUFACTURERS FOR MORE THAN 25 YEARS

The Teleoptic Company, Racine, Wisconsin

Pogue Urges Allied Firms Operate Foreign Air Bases Following War

CAB chairman favors private management of global routes in talk on "World Highways of the Air."

L. Welsh Pogue, referring to the much-discussed foreign air bases, has suggested that eventual operation by a business organization sponsored by United Nations interested in their upkeep.

The Civil Aeronautics Board chairman also has come out for private ownership in international air operations, but does not take sides on the question of monopoly vs. competition in the international field.

Question—He posed the latter question in a speech in New York last week, and the problem was a hard one, and then did not commit himself. He was discussing "World Highways of the Air" at the annual New York Herald Tribune Forum.

Pogue feels that the United States must expect to be the leader on international aviation policy, which he described as so closely identified with international relations that "final solution of national policy questions must rest with our elected representatives, the President and Congress." But he pleaded for a well informed public opinion on international aviation as a basis for that policy.

Opposes Curtiss—"International air transportation," he said, "must not be shackled by unwarranted restraints." Few international problems, the chairman declared, could lead more readily to "power politics." On the other hand, none has offered so great an opportunity for world-wide lasting friendship and peace.

Emphasizing that the views were his own and not government policy, he said he favored "a minimum of artificial barriers to international commercial air operations; universal recognition of the right of commercial air traffic; avoidance of a world checkeredboard of zones of air influence; and suitable airports throughout the world available on a fair and equal basis to commercial aircrafts of all nations participating in international air transportation."

Airport Programs—Pogue pointed out that the war had resulted in many "excellent airports" built or enlarged with resources of nations other than the one where they are, some of which naturally could play

an important part in the future world air transport network.

He suggested that the countries having sovereign jurisdiction over such airports "might be willing to permit such airports to be owned, operated and financially supported by a business organization which would in turn be owned by those United Nations desiring to see such airports so administered and willing to underwrite costs of upkeep not met by operating income." Such an arrangement, he predicted, would assure uniform methods, fair service charges, and other benefits, and be "a place where, on a hard-headed basis, basic, international cooperation holds high promise of benefit to all."

European Airlines—The CAB chairman acknowledged that most of the European airlines are "closed instruments" of their respective nations, mostly owned in whole or part by their governments, and each employing a monopoly of all international air traffic.

Several objectives should be sought, Pogue said. Strength and harmony in international relations are desired, but "we must beware of over-haste" and not confuse it with strength.

Defense Factor—The policy we should be able to see will best contribute to the national defense, the commerce, and the postal service.



POWER SWEEPER PROTECTS TIRES:

American Airlines is using this power sweeper to pick up nuts, bolts and other sharp pieces of metal on ramp and hangar floors, or a protection for airplane tires. The machine is used to replace a crew of three or four men on the outside and five or six men inside the hangar.

ice of the United States," are one phasing aircraft development of new and better aircraft equipment, operating techniques and business practices, "the one which will best lend itself to responsible government regulation."

Airlines should outlaw "excessive air mail agreements," Post said, and agree as a part of international weekend agreements "that rights of commercial air transit shall be generally available to commercial aircraft of all nations."

terminated how far and how fast that field of air transportation should be developed. More information on traffic potential particularly is desired in this circle, he said.

It is believed likely to be considered now the relationship of the feeder problem development of the entire domestic air transport system, attainment and retention of a balance among the airlines so that no group will depend solely on another group or be forced to rely permanently on government subsidy, maintenance of safety and

operating standards, airline obligations to render adequate local service as effectively as long haul through service and provision of traffic carriers' equipment in feeder or trunk lines as transportation.

The task of conducting the ATA study naturally will fall to Dr. L. C. Sorrell, the association's research and planning expert. Dr. Sorrell is with the ATA on leave of absence from the University of Chicago, where he is professor of transportation. He has written papers at the end of this year.

Two More Airlines Issue Story of ATC Contract Jobs

Dr. Sorrell to conduct study if University extends his leave.

By MERLIN MICKE

Air Transport Association is planning its own study, through its Research Department, of the air feeder line question. Whether its findings will augment those of the Civil Aeronautics Board, which recently completed an investigation along this line, remains to be determined.

Would Study Rail Studies. There are two reasons the CAB investigation did not bring out enough information on the expenses of other forms of transportation, notably the railroads, in the stage of their evolution comparable with the present development of the airlines. The question also has been raised whether the data submitted at during the CAB investigation was adequate to establish a base for de-

termining procedures—technique of abandoning a plane at sea—which have been developed by American and adopted as an ATC standard. Experimental work on its first rail development has led to a type of equipment for making sea water potable that can be ATC approved.

For ATC on rail lines

American engineers and those from the Army except the actual fighting.

Committed to training

60 to 70 percent of all Army

men assigned to the airlines, it has

instructed pilots, navigators, radio

operators, control, priority and

transportation officers and technicians

for the ATC or the Naval Air

Transport Service, and division

plans for ATC operations.

Experienced With Rail.—Over-

seas crews have been instructed in

abandoning planes at sea—which have been developed by American and adopted as an ATC standard. Experimental work on its first rail development has led to a type of equipment for making sea water potable that can be ATC approved.

Present Ocean Routes

American says its crew have pioneered

routes across the Pacific and Atlan-

tic, been missions besides regular

military cargo service, and are fly-

ing on all secret routes along which

ground crews may have sabotaged

Christians living with them.

The man of the 125 flying with the

Army and Navy on leave of absence

from American is Brig. Gen. C. R. Smith, former ATC president and now deputy commander of ATC.

American has sent another 1,300

employees into the military services.

Fleet Cut.—Before the United

States entered the war, the govern-

ment bought seven American planes, and later the airline released contract deliveries of DC-3s and DC-4s. But although its Flagship fleet was reduced from 79 to 43 between March and June 1942, the airline has been flying almost double the pre-war cargo—much of it war material. About 18 percent of American's personnel man these planes, which number more than 300 pilots and 220 stewardesses. Two hundred more pilots fly for the ATC on the secret route.

Meanwhile, beyond the scenes, the express way war commerce, largely for the ATC but with postwar commercial application in view.

Pan American's report, issued a few days later, said 5,000,000 trans-oceanic crossings since Pearl Harbor were completed last week. Pointing out that the record was many times the total trans-oceanic flying done by all the airlines of the world before the war, PAA said it included 2,753 Atlantic crossings for the ATC, and 481 for the Naval Air Transport Service, and by PAA Clippers on regular runs between the United States, Europe and the British Isles.

5,250 Crossings.—Including special missions, crossings over both North and South Atlantic totaled 3,250 with the first PAA transport arrival in the United States on July 12.

The airline completed 1,221 crossings of the North Pacific between the Hawaiian Islands and the mainland, both scheduled and for the MATS, and 630 to the South Pacific war theater for the NATA. During the period, PAA crews have done more than 22 million air miles of over-ocean flight and earned some 160 million ton miles of war cargo, including 100 million ton miles of overseas destinations for the military.

Save Flying Costs.

Passenger have included government and military leaders of each of the 32 United Nations, besides representatives of natural countries, among them President Roosevelt (in and from Africa at the time of the Casablanca war conference), and Prime Minister Churchill (en route to London after his first war meeting with the President in Washington).

Pan American takes pride in the

fact that the Clippers have been in

cross-ocean service continually

since Pearl Harbor, and record that

over 700,000 passengers have made

the trips in the Pacific area. While

routes and schedules of operations

for the Army and Navy are military

secrets, PAA disclosed that they

serve every fighting fleet except

Russia, and even that indirectly.

CAB ACTION

ATA Subsidized American Airlines to Buy Alaska, Ohio, and the Middle West

A rate of \$3.60 per pound paid by the ATA to American Airlines for its cargo, equivalent of about \$100,000 to American, was suspended by the Board of Governors, the Board said in a statement. The Board ruled that the rate was excessive and that American should not receive it in the future. At the same time, the Board directed American to pay the rate of \$1.50 per pound in reversion of its commercial operations.

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TCA's NEW RESERVATION CONTROL OFFICE

Traffic-Canada Air Lines has a staff of 76, of whom 65 are girls, in its new central reservations control office at Toronto. Feature of the office is a four-board chart that shows flight details available at a glance to operators in 16 sound-proof telephone booths, who answer direct public inquiries and communicate with teletype office clerks.

Airways Traffic Levels Off, CAA Says

Army, Navy flights continue to make up bulk of those cleared through control centers.

Airway flight operations appear to have leveled off in September, after heavy increases since the first of the year, as the basis of latest figures from the Civil Aeronautics Administration.

Army and Navy flights continue to make up the bulk of those cleared through the airway traffic control centers and local towers. Others are classified as military and carriers.

► **Slight Increases**—Navy and air carrier flights increased slightly in September over August, and a slight decrease was shown in the other two categories. A modest earlier, heavy gains were reported in all four. All were higher in mid-year than in January, but it should be noted that not all of the 28 airway traffic control centers were in operation before July, as reported in the first of the month.

Flight operations are reported by these centers and the 186 local traffic control towers to CAA's eight regional offices, which compile these and send them on to Washington. In the following table, which compares operations for January with those for July, August and September, it should be remembered that since each clearing by a traffic control center is listed as an operation, the number of actual flights was less than half the number of operations.

► **Protective Service**—The comparison serves, however, to indicate the proportion and growth in flight types, as reflected in recorded operations.

Type of Operation	Jan.	July	Aug.	Sept.
All operations	35,691	55,691	56,007	56,007
Air carriers	32,721	45,962	46,337	46,337
Army	2,860	2,860	2,860	2,860
Navy	1,010	1,010	1,010	1,010
Other	4,000	3,161	3,161	3,161
Total	41,561	60,863	60,337	60,337

Increase "Homing" Range Stations

CAA announces plan to set up another by 71 within few months.

Civil Aeronautics Administration is increasing the number of "homing" range stations—those which send their signals in all directions as opposed to the conventional four-direction transmitters. Seventy-one are on CAA's present program, and while their power at first will be



GLIDER AIDS BOND SALE:

John E. Parker, director of Northwest Airlines and president of Minneapolis Aeronautical Corp., Minneapolis, sponsored a recent display of a Waco CG-4A glider built by Northwest to aid a war bond drive in St. Paul. He is shown here with a WAC corporal and Memphis.

only up to 50 watts, more powerful equipment is to be installed later.

Planes are being equipped with directional finders which enable them to go to stations, CAA reports. A few months will be required to

make the installations, placed near airports, fields for early detection in emergencies.

CAA also is putting facilities in many places where previously communication was limited to teletype.

Airmail Pickup Sought in Canada

Line airmail permit for service similar to All American system.

Canada soon may have a non-stop airmail and air express pickup system similar to that operated in the United States by All American Aviation.

Canadian Air Express, Ltd., of Kitchener, Ont., has applied to the Department of Transport at Ottawa for such an operation, to link Canadian centers with main transcontinental mail routes. Edward Goodwin, company president, cited the marked success of the system in this country, and said that if the application received approval, his firm expects to take line operation before the end of the war.

► **Helicopters**—Canadians are not overlooking the possibilities of the helicopter, either. Dominion Air Transport Co., Montreal, has applied for permission to operate a 1448-seat helicopter service throughout Quebec's populated areas as far west as Ottawa.

SHORTLINES

► The increase in express revenues in August over August of last year was 614 percent, compared with August a year ago, while the number of shipments, totaling 34,894, was up 26.7 percent, according to the air express division of the Canadian Air Express Agency.

► Airports coming into the United States may clear enroute and intermediate flights at 10 airports and seaplane bases (as of Oct. 30), states the Civil Aeronautics Board. Thirty-one of the "ports of entry" are without time limit, the other eight being on a temporary one-year basis.

► United says its proportion of 9 percent women in its 1,500 employees increased with an average of 10 percent for the airlines, which 2 reports lead other transportation systems in percentage of women employed.

Women comprise 55 percent of United's passenger service department personnel, 68 percent of accounting department, and 78 percent traffic department.

► Figures for the House Interstate and Foreign Commerce Committees report (Gao 1945) on the Lend-Lease (H. R. 3480) were so great that the House was called on, a few days ago, to authorize the printing of an additional 2,000 copies, a fourth for the Committee's use and the remainder to go to the House document room.

► Northwest Airlines asserts that its October express revenue of \$1,024,500 was not record for the month, and marked the third straight monthly increase. The figure was more than 4 million pounds sales higher than that for September. Cargo for the month was 147,000 express pounds. President Clark Hunter noted, recently, war materials.

► New figures from the Civil Aeronautics Board show that not operating coverage of the 16 domestic airports for the year ended Aug. 31, was \$31,384,739, compared with \$31,343,528 for the same period a year earlier. Total operating revenue for the 12 months to

Aug. 31 this year were \$418,613,474, against \$364,573,958 a year ago, while operating expenses were \$367,300,673 compared with \$353,333,352.

► Pennsylvania-Central has opened a ticket office at the Naval Operating Base at Norfolk for convenience of the personnel there and at the Naval Air Station.

► CAA issues a safety bulletin warning pilots and passengers to keep up to date on wind cross country flying information on airway and airport changes. It also cautions that small aircraft become lost and crashed because of their failure to maintain association with navigation aid radio ranges.

► Another CAA safety bulletin announces that authority to modify the left hand side rule over landing areas has been transferred from the CAB to the Administrator of Civil Aviation, to permit quicker action when immediate deviation from standard practice is expected.

► Toronto has been informed officially that it will have use of the Bellwood and 100th Street airports in the city after the end of the war by Canadian Government. The port is being used to test Messerschmitt bombers built by De Havilland. It is nearer the city than the present secondary field at Malton, 12 miles east. Malton will become an auxiliary field. The Toronto Island airport, which will be the main downtown base, also is to be used by the RCAF, but will become an auxiliary field and seaplane base.

► Four men from CAB circles attended the First National Clinic of Domestic Aviation Planning at Oklahoma City last week. Chairman L. Welsh Fagan was unable to get away from Washington, but Member Harriet Branch made the trip and delivered a speech. Member John Lee, based on Oklahoma, missed the meeting. Member C. W. Johnson, Chief Executive C. Edward Lester told the meeting about load-factor-pickup service. Fourth man was Edward E. Slattery, of the public information section.

► The Laredo, Tex., Airline has been withdrawn by the Bureau of Customs as an airport for entry for civil aircraft and merchandise.

► CAA is issuing a written examination notebook for pilots, compiled by the examination unit, to aid applicants for pilot certificates and ratings.

► Port of New York Authority has started air transport leased studies with a view to post-war possibilities. John Walter West, air transport analyst, has been added to the planning staff. An air transport unit will be concerned with the planning, design and data on applications for routes gathered by information at Civil Aeronautics Board hearings.

Navy's Gas Needs

"Largest single military use of petroleum products is for aviation gasoline," Assistant Secretary of the Navy Ralph A. Bard disclosed before the Navy's news media flight plan in Boston, which he said required as much aviation gasoline to keep it in use an hour as would be required to drive a car from Chicago to Los Angeles.

Bard also pointed out that aviation gasoline is the most important item between well-developed airports over well-maintained air routes is not satisfactory for operation of a carrier-based torpedo bomber. These bombers need a fuel that will deliver maximum performance and endurance by 100 miles fully loaded off the short deck of a carrier.

► Wyoming Airlines, Cheyenne, Alaska, asked CAB to extend its order of last June 29 for suspension of service to Pedro Bay, Alaska, which expires Nov. 15. No alternate or safe landing facilities are yet available, the application said.

► Northwest has informed the CAB it is resuming service at Grand Forks, N. D., Nov. 8, after suspension since Aug. 6 because of airport construction.

► Hawaiian Airlines, Ltd., of Honolulu, and David Whalen applied to CAB for approval of interlocking routes. Eighty-eight percent of the routes that would be interlocked and State Navigation Co. Whalen has served as chief accountant for both companies since January, 1943; was elected assistant treasurer of the shipping company last March, and to the same post with the airlines

last June. To comply with section 601(a), Whalen and the Hawaiian Airlines have asked approval of his serving as an officer of the company.

► Recommendation to the Civil Aeronautics Board was made by Hawaiian Airlines, following a hearing at Honolulu, that Hawaiian Airlines application to include Akron, Ohio, on a stop at Malibu, Calif., be granted.

► CAB commissioners have recommended that Braniff be allowed to stop at Malibu, Calif., as intermediate point at 1 AM, between Chicago and the intermediate point of Burlington, Iowa, United, which stops at Malibu at 1 AM 1 out of Chicago, did not oppose the application.

► Ralph D. Damon and American Airlines filed with CAB for approval of strike-breaking rates for passengers and non-passenger, Damon manager and a director of American and as director and travel Feb. 1, 1944) submitted without compensation for Republic Aviation Corp.

► United reported it flew 32,059,389 revenue passenger miles in October for a new high. It was a gain of 3 percent over September and 31 percent over the 30,165,656 in October, 1943. Total revenue for October, \$1,361,372, was 9 percent higher than the \$1,251,372 for October a year ago.

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AIRCRAFT INSPECTION EXECUTIVES WANTED

Nationally known Aircraft Manufacturer has openings in the following supervisory positions.

CHIEF INSPECTOR — AIRCRAFT

Must be experienced in Naval Aircraft projects and thoroughly familiar with Navy Specifications, and have possess executive ability.

SUPERVISOR OF OUTSIDE PRODUCTION INSPECTION

Must be familiar with all phases of aircraft inspection and possess organizational ability and good personality for outside contacts.

SUPERVISOR OF TOOLING INSPECTION

Must be familiar with all phases of aircraft design, including tooling, dies and major fixtures and possess organizational ability and good personality for outside contacts.

No person was employed at their highest skill in aircraft industry will be considered.

P-102, AVIATION NEWS

Chicago 11, Ill.

A Dangerous Precedent

THE PRESIDENT should not accept the resignation of Charles E. Wilson as vice-chairman of WPA. He is indispensable to the nation and should be drafted to continue his service into the critical period of industrial conversion to peace.

Mr. Wilson came to Washington reluctantly and at personal sacrifice—only at the personal request of the President. He felt that the obligation to the country of the billion-dollar General Electric Company which he headed was of sufficient importance to justify his staying at his post. He feels now that the biggest part of his Washington assignment has been met, and that he should return to G.E.

There is a dangerous tendency rising in Washington which should be stamped quickly. This can be done only by the President. There is an inclination by the leaders of industry who are performing valuable services for the government to consider the big job done. They are preparing to pack up and go home. Unless the President makes a vigorous and personal appeal there will be an exodus.

Mr. Wilson is outstanding among business leaders who have come to Washington. He has had to battle constantly for what he, industry and the nation demanded. It was weeks before his duties were even defined. He stuck out this discouraging period and finally was able to start work. His record of

achievement in bringing Radar, escort vessels and aircraft over the hump is amazing to those who know the woefully complex Washington picture.

He has been a powerful unifying force both on the sometimes temperamental aircraft industry itself and in uniting and catalyzing individualistic government agencies such as WMC, Selective Service, Housing Administration, and the Army and Navy.

He has even prevented production interruptions by acting as a buffer between industry and various well-intentioned groups in the capital.

His integrity and prestige have been potent factors in bringing aircraft production close to schedule. His eager assumption of the responsibility to do the job, and his ability to learn the problems and link them has raised his stature to that of an outstanding public official.

Mr. Wilson should be induced to remain. His responsibilities to the country are only half done. He and the other capable men like him are needed during the coming months of contract terminations, disposal of surplus materials and plant facilities, and conversion of industry to peace. His departure will set a dangerous precedent. If ever government need sound advice from business, it needs it now and for the months to come.

So the Public Can Understand

RECENT TRADES on this page for the readability and effectiveness of the manuals prepared by the Bureau of Aeronautics' Training Literature Section aroused discussion of the problem of simpler language in aviation literature. One of the more thoughtful officials in CAA points out the real job for peace-time public education in aviation must be done by CAA and CAB.

CAA has already made a start with two of its new pilot training bulletins, "Elementary Flight Maneuvers" and "Pilots' for Elementary Maneuvers." The Army's aviation literature has also been spruced up recently, and the Airlines War Training Institute issued several excellent training bulletins.

"The civil air regulations may have to be voluminous and legally phrased to meet the requirements of law but it goes almost without saying that the more plain a man understands the rules he'll obey," this CAA official says.

There is too much "federalism" in government literature today. One civil aeronautics manual, outlining technical requirements of a maintenance regulation, for example, defines major alterations

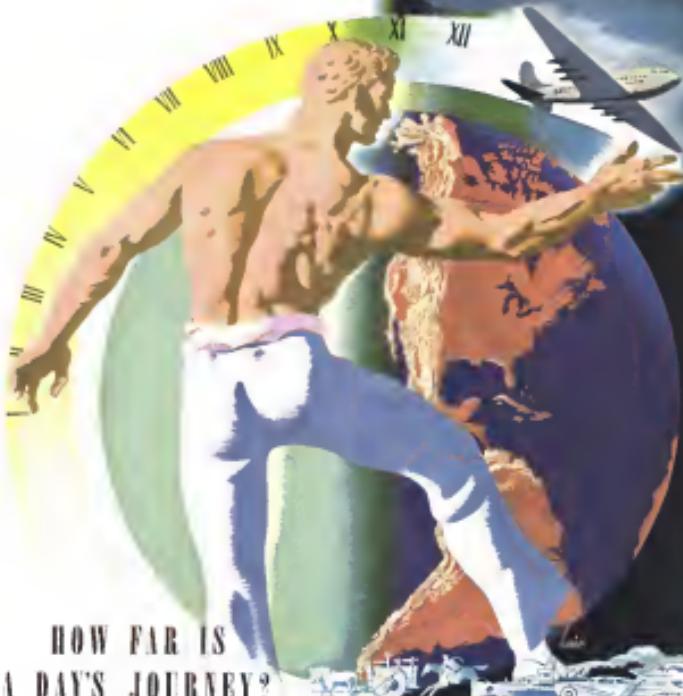
as "All those alterations not included in the definition of minor alterations." The Infantry Manual, until recently, defined high ground as "That portion of the earth's surface surrounded by low ground."

Too much aviation writing has been restricted to engineering and technical writing. A 120-page CAA report on testing of fire protection apparatus contains the sage conclusion that "Observations of numerous fires showed that the optimum detector locations were the points of flame egress from the powerplant installation," or translated, "The best place for a fire detector is where there is most likely to be a fire."

Involved, technical writing has its place in the files of research engineers. But the writing which the average man will read and appreciate most will be somewhere between the newspaper page and the technical journal.

Books built around that midpoint would give the average man a greater appreciation of flying and of the government's interest and aid in making flying safe.

ROBERT H. WOOD



HOW FAR IS
A DAY'S JOURNEY?

By on-set, it's about twelve miles, by horse, about fifty, by foot, thirty, never less. Modern aircraft, however, may cross several states and transoceanic planes can cover half a continent. But today's aces are apportioning their time in less than a day.

Mountains, oceans, deserts... a space almost impassable barrier... have become only colorful parts in the pattern of swiftly changing panoramas viewed from an air liner's window.

The developers of transportation have always influenced the de-

velopment of economic history. Changing ways of travel have caused changes in society. Thus, today's aircraft designers and engineers—in planning tomorrow's aircraft—are also helping to shape the post-war World.

Right now, at McDonnell, we're working three shifts a day making aircraft, parts and plastics for war. For good measure, we're also... it's wind to victory. But we're making planes too, for aircraft which we believe will contribute greatly to tomorrow's peace-time World.

MCDONNELL Aircraft Corporation
Manufacturers of PLANES • PARTS • PLASTICS • SAINT LOUIS - MEMPHIS -



Thunderbolt

Highway patrol

Sure, you've read this story before. It's in your newspaper frequently. "Bombers over Germany again last night . . . escorting Thunderbolts broke up mass attack by enemy fighters."

Possibly you missed an important point: *that most of these battles start at near-stratosphere levels, up around 35,000 feet or above.*

Thunderbolts patrol the *high* ways of today's air war, the strategically important stratosphere.

This very same stratosphere will be the natural sky-road for tomorrow's high speed, long distance transportation. We think of the Thunderbolt as the forerunner of great peacetime planes to come—planes designed for high speed, high altitude flight.

Republic Aviation will know how to build them! Republic Aviation Corporation, Farmingdale, L. I., New York.



REPUBLIC AVIATION

SPECIALISTS IN HIGH-SPEED AIRCRAFT

MAKERS OF THE

Thunderbolt